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WHAT WE CLAIMS IS:

1. A system for effecting a braking force on a towed vehicle, the system including:  
 at least one braking sensor located on a towing vehicle,  
 a control unit for communication with a braking actuator mechanism located  
 on the apparatus towed by the towing vehicle.

5 — the system characterised in that

the control unit can determine braking force sense by the braking sensor and signals a braking actuator mechanism to apply a braking force to a towed vehicle proportional to the force applied to the braking sensor as determined by the control unit.

2. A system as claimed in claim 1 which includes a park brake assembly.
3. A system as claimed in either claim 1 or claim 2 wherein the braking sensor is incorporated into a brake pedal pad.
4. A system as claimed in claim 3 wherein the braking sensor includes a piezo-sensitive laminate.
5. A system as claimed in any one of claims 1 to 4 which includes an auxiliary control unit mounted to the towed vehicle.
6. A system as claimed in any one of claims 1 to 5 characterised in that the control unit is frequently polls load on the brake pedal.
7. A system as claimed in any of the claims 1 to 6 which includes provision for

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the actuator mechanism to operate independently of the braking force sensed.

8. A system as claimed in claim 7 wherein the independent operation of the actuator mechanism is for a predetermined time and amount of force.
9. A system as claimed in any one of claims 1 to 8 configured so that if the auxiliary control unit on the towed vehicle is disconnected from the control unit on the towing vehicle, power is disconnected from at least some of the components on the towed vehicle.
10. A system as claimed in claim 9 so that upon disconnection of the towed vehicle from the towing vehicle the brakes on the towed vehicle will be operated to full capacity.
11. A system as claimed in any one of claims 1 to 10 which includes automatic sway detection to detect vehicle oscillation and apply the trailer brakes independently to that of the towing vehicle.
12. A system for effecting a braking force on a towed vehicle via an actuator mechanism characterised in that  
the actuator mechanism operates independently of any towing vehicle associated with the towed vehicle.
13. A system as claimed in claim 12 wherein the independent operation is for a predetermined time and amount of force.
14. A system is claimed in either claim 12 or claim 13 configured so that the auxiliary control unit on the towed vehicle is disconnected from the control unit on the towing vehicle, power is disconnected from at least the components on the towed vehicle.
15. A system as claimed in any one of claims 12 to 14 so that upon disconnection

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of the towed vehicle from the towing vehicle. the brakes on the towed vehicle will be operated to full capacity.

16. A system as claimed in any one of the previous claims which includes automatic sway detection to detect vehicle oscillation and apply the trailer brakes independently to that of the towing vehicle.

17. A piezo-sensitive laminate for use in a braking sensor.

18. A method of applying a braking force to the towed vehicle proportional to the braking force applied at the towing vehicle which includes a braking force sensor on a towing vehicle,

a control unit, and

a braking actuator on the towed apparatus responsive to signals from the

control unit characterised by the steps of:

- (a) sensing the force applied to the brake sensor,
- (b) converting the force to a predetermined braking force to be applied to the towed vehicle,
- (c) signalling the brake actuator mechanism to apply the predetermined proportional braking force.

19. A system substantially as herein described with reference to and as illustrated by the accompanying drawings.

20. A method substantially as herein described with reference to and as illustrated by the accompanying drawings.

21. A piezo-sensitive laminate substantially as herein and described with reference

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to and as illustrated by the accompanying drawings.

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